



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

March 2, 2016

Mr. T. J. Tate  
Manager – Environmental, Health,  
Safety, & Licensing  
AREVA Inc.  
2101 Horn Rapids Rd.  
Richland, WA 99354

SUBJECT: AUTHORIZATION FOR SHIPMENT OF THE MODEL NO. 51032-2 PACKAGE  
FROM CRYSTAL RIVER 3 TO OCONEE NUCLEAR POWER PLANT

Dear Mr. Tate:

As requested by your letter dated January 19, 2016 (ML16022A145), pursuant to Title 10 of the *Code of Federal Regulations* Part 71, the Certificate of Compliance (CoC) No. 9252 for the Model No. 51032-2 package is amended by letter to authorize fuel shipments from the Crystal River 3 nuclear power plant to the Oconee nuclear power plant. This letter authorization supersedes the letter authorization dated October 29, 2015 (ML15303A527), which was issued in response to your letters dated June 30, 2015 (ML15188A156) and September 18, 2015 (ML15273A171.) This letter authorization has been reissued to allow for greater flexibility in the shipping time period.

CoC No. 9252 for the Model No. 51032-2 package is amended by letter to authorize two shipping campaigns of AREVA MkB-HTP-1 15x15 assemblies with assembly average enrichments of up to 4.55 wt% and 4.95 wt% from the Crystal River 3 nuclear power plant to the Oconee nuclear power plant. AREVA MkB-HTP-1 15x15 fuel assemblies up to 4.80 wt% assembly average enrichment are already authorized contents in the CoC. The CoC is also amended by letter to allow for additional loading procedures to be performed at Crystal River 3. All other conditions of CoC No. 9252 shall remain the same. This authorization is valid for packages to be shipped within two four-month windows determined mutually by Duke Energy and AREVA and communicated to the U.S. Nuclear Regulatory Commission (NRC) by AREVA at least ninety (90) days prior to the start of each window. It is limited by the additional following conditions:

1. 40 AREVA MkB-HTP-1 15x15 fuel assemblies, with assembly average enrichments of up to 4.55 wt% and 36 AREVA MkB-HTP-1 15x15 fuel assemblies, with assembly average enrichments of up to 4.95 wt% are authorized to be shipped.
2. Each package will contain up to two fuel assemblies where the most bounding loading configuration is one fuel assembly with assembly average enrichment of 4.55 wt% and another fuel assembly with assembly average enrichment of 4.95 wt%. One fuel assembly with assembly average enrichment of either 4.95 wt% or 4.55 wt%, or two assemblies each with assembly average enrichments of 4.55 wt%, can also be shipped in each package.
3. Duke Energy tracks the enrichment of each fuel assembly via serial numbers.

4. The packages will be loaded in accordance with a "Fuel Container Loading Plan" prepared by Crystal River 3 and approved by AREVA Richland, AREVA TN, and Duke Energy representatives.
5. Duke Energy personnel at Crystal River 3 will prepare transfer sheets that govern each transfer operation and oversee AREVA Fuel Services performing that function.
6. Duke Energy personnel at Crystal River 3 will initiate NRC Form 741 accountability records.
7. AREVA Fuel Services will load the containers in accordance with the Duke Energy transfer sheets.
8. AREVA TN and Duke Energy on-site representatives will independently verify loading has been performed in accordance with the transfer sheets.
9. AREVA off-site Fuels personnel will approve shipping documentation prior to shipment, including review of the NRC 741 forms.
10. All fuel assemblies will be verified to not exceed an A<sub>2</sub> quantity of radionuclides through decontamination, if necessary.
11. The Criticality Safety Index (CSI) for packages shipped under this authorization is 0.4.

If you have any questions regarding this authorization, please contact me or Huda Akhavannik at (301) 415-5253.

Sincerely,

**/RA/**

Steve Ruffin, Acting Chief  
Spent Fuel Licensing Branch  
Division of Spent Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

Docket No. 71-9252  
TAC No. L25086

Enclosure: Safety Evaluation Report

T. Tate

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4. The packages will be loaded in accordance with a "Fuel Container Loading Plan" prepared by Crystal River 3 and approved by AREVA Richland, AREVA TN, and Duke Energy representatives.
5. Duke Energy personnel at Crystal River 3 will prepare transfer sheets that govern each transfer operation and oversee AREVA Fuel Services performing that function.
6. Duke Energy personnel at Crystal River 3 will initiate NRC Form 741 accountability records.
7. AREVA Fuel Services will load the containers in accordance with the Duke Energy transfer sheets.
8. AREVA TN and Duke Energy on-site representatives will independently verify loading has been performed in accordance with the transfer sheets.
9. AREVA off-site Fuels personnel will approve shipping documentation prior to shipment, including review of the NRC 741 forms.
10. All fuel assemblies will be verified to not exceed an A<sub>2</sub> quantity of radionuclides through decontamination, if necessary.
11. The Criticality Safety Index (CSI) for packages shipped under this authorization is 0.4.

If you have any questions regarding this authorization, please contact me or Huda Akhavannik at (301) 415-5253.

Sincerely,

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Steve Ruffin, Acting Chief  
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<b>NAME:</b>	HAkhavannik	DWalker	SRuffin					
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**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
WASHINGTON, D.C. 20555-0001

**SAFETY EVALUATION REPORT  
Docket No. 71-9252  
Model No. 51032-2  
Certificate of Compliance No. 9252**

**SUMMARY**

By application dated June 30, 2015 (ML15188A156), as supplemented September 18, 2015 (ML15273A171), AREVA Inc. (AREVA, or the applicant), requested a one-time authorization to ship two campaigns of AREVA MkB-HTP-1 15x15 fuel assemblies with average assembly enrichments of up to 4.55 wt% and 4.95 wt%. The 4.95 wt% assembly average enrichment is greater than the 4.80 wt% assembly average enrichment authorized in the current Certificate of Compliance (CoC) No. 9252, for the Model No. 51032-2 transportation package. Staff granted a one-time letter authorization in a letter dated October 29, 2015 (ML15303A527) which contains staff's safety evaluation report.

On January 19, 2016 (ML16022A145), the applicant requested amending the letter to allow for flexibility in the shipment of the dates. The staff agrees that the change does not affect the ability of the package to meet the requirements of 10 CFR Part 71. This letter authorization supersedes the October 29, 2015, letter authorization.

**EVALUATION**

By application dated June 30, 2015, as supplemented September 18, 2015, AREVA Inc. (AREVA, or the applicant), requested a one-time authorization to ship two campaigns of AREVA MkB-HTP-1 15x15 fuel assemblies with average assembly enrichments of up to 4.55 wt% and 4.95 wt%. The 4.95 wt% assembly average enrichment is greater than the 4.80 wt% assembly average enrichment authorized in the current Certificate of Compliance (CoC) No. 9252, for the Model No. 51032-2 transportation package. Staff granted a one-time letter authorization in a letter dated October 29, 2015 which contains staff's safety evaluation report.

As requested by the applicant on January 19, 2016, staff is amending the letter to allow for flexibility in the shipping dates by changing the previous shipment window dates of July 1-September 30, 2016, and July 1-September 30, 2017. The shipping window has been changed to: "[t]his authorization is valid for packages to be shipped within two four-month windows determined mutually by Duke Energy and AREVA and communicated to the U.S. Nuclear Regulatory Commission (NRC) by AREVA at least ninety (90) days prior to the start of each window." The applicant requested this change as the shipping dates are now currently unknown and may be different than the previously approved time period.

The staff agrees that the change is administrative and does not affect the ability of the package to meet the requirements of 10 CFR Part 71. This letter authorization supersedes the October 29, 2015, letter authorization.

## CONDITIONS

CoC No. 9252 has been amended by letter. The following conditions apply:

1. 40 AREVA MkB-HTP-1 15x15 fuel assemblies, with assembly average enrichments of up to 4.55 wt% and 36 AREVA MkB-HTP-1 15x15 fuel assemblies, with assembly average enrichments of up to 4.95 wt% are authorized to be shipped.
2. Each package will contain up to two fuel assemblies where the most bounding loading configuration is one fuel assembly with assembly average enrichment of up to 4.55 wt% and another fuel assembly with assembly average enrichment of up to 4.95 wt%. One fuel assembly with assembly average enrichment of up to either 4.95 wt% or 4.55 wt%, or two assemblies each with assembly average enrichments of up to 4.55 wt%, can also be shipped in each package.
3. Duke Energy tracks the enrichment of each fuel assembly via serial numbers.
4. The packages will be loaded in accordance with a "Fuel Container Loading Plan" prepared by Crystal River 3 and approved by AREVA Richland, AREVA TN, and Duke Energy representatives.
5. Duke Energy personnel at Crystal River 3 will prepare transfer sheets that govern each transfer operation and oversee AREVA Fuel Services performing that function.
6. Duke Energy personnel at Crystal River 3 will initiate NRC Form 741 accountability records.
7. AREVA Fuel Services will load the containers in accordance with the Duke Energy transfer sheets.
8. AREVA TN and Duke Energy on-site representatives will independently verify loading has been performed in accordance with the transfer sheets.
9. AREVA off-site Fuels personnel will approve shipping documentation prior to shipment, including review of the NRC 741 forms.
10. All fuel assemblies will be verified to not exceed an A<sub>2</sub> quantity of radionuclides through decontamination, if necessary.
11. The CSI for packages shipped under this authorization is 0.4.

All other conditions of CoC No. 9252 shall remain the same. This authorization is valid for packages to be shipped within two four-month windows determined mutually by Duke Energy and AREVA and communicated to the NRC by AREVA at least ninety (90) days prior to the start of each window.

## CONCLUSION

CoC No. 9252 has been amended by letter to authorize shipment of Model No. 51032-2 packages containing 40 AREVA MkB-HTP-1 15x15 fuel assemblies with average assembly enrichments of up to 4.55 wt% and 36 AREVA MkB-HTP-1 15x15 fuel assemblies with average assembly enrichments of up to 4.95 wt%. This authorization is valid for packages to be shipped within two four-month windows determined mutually by Duke Energy and AREVA and communicated to the NRC by AREVA at least ninety (90) days prior to the start of each window.

Based on the statements and representations in the application, and with the conditions listed above, the staff agrees that this change does not affect the ability of the package to meet the requirements of 10 CFR Part 71.

Issued on 3-2-16.